10/018,274

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NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	Jun 03	New e-mail delivery for search results now available
NEWS 4	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 5	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 6	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 7	Sep 03	JAPIO has been reloaded and enhanced
NEWS 8	Sep 16	Experimental properties added to the REGISTRY file
NEWS 9	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 10	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 11	Oct 24	BEILSTEIN adds new search fields
NEWS 12	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 13	Nov 18	DKILIT has been renamed APOLLIT
NEWS 14	Nov 25	More calculated properties added to REGISTRY
NEWS 15	Dec 04	CSA files on STN
NEWS 16	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 17	Dec 17	TOXCENTER enhanced with additional content
NEWS 18	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 19	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS 20	Feb 13	CANCERLIT is no longer being updated
NEWS 21	Feb 24	METADEX enhancements
NEWS 22	Feb 24	PCTGEN now available on STN
NEWS 23	Feb 24	TEMA now available on STN
NEWS 24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27	Mar 20	EVENTLINE will be removed from STN
NEWS 28	Mar 24	PATDPAFULL now available on STN
NEWS 29	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 30	Apr 11	Display formats in DGENE enhanced
NEWS 31	Apr 14	MEDLINE Reload
NEWS 32	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 33	Jun 13	Indexing from 1947 to 1956 added to records in CA/CAPLUS
NEWS 34	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 35	Apr 28	RDISCLOSURE now available on STN
NEWS 36	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 37	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 38	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated
NEWS 39	May 16	CHEMREACT will be removed from STN
NEWS 40	May 19	Simultaneous left and right truncation added to WSCA
NEWS 41	May 19	RAPRA enhanced with new search field, simultaneous left and

```
                    right truncation
 NEWS 42   Jun 06   Simultaneous left and right truncation added to CBNB
 NEWS 43   Jun 06   PASCAL enhanced with additional data
 NEWS 44   Jun 20   2003 edition of the FSTA Thesaurus is now available
 NEWS 45   Jun 25   HSDB has been reloaded

 NEWS EXPRESS   April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT
                MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
                AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
 NEWS HOURS     STN Operating Hours Plus Help Desk Availability
 NEWS INTER     General Internet Information
 NEWS LOGIN     Welcome Banner and News Items
 NEWS PHONE     Direct Dial and Telecommunication Network Access to STN
 NEWS WWW       CAS World Wide Web Site (general information)

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FILE 'HOME' ENTERED AT 08:39:19 ON 30 JUN 2003

=> file uspatfull
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'USPATFULL' ENTERED AT 08:39:37 ON 30 JUN 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 26 Jun 2003 (20030626/PD)
FILE LAST UPDATED: 26 Jun 2003 (20030626/ED)
HIGHEST GRANTED PATENT NUMBER: US6584613
HIGHEST APPLICATION PUBLICATION NUMBER: US2003121088
CA INDEXING IS CURRENT THROUGH 26 Jun 2003 (20030626/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 26 Jun 2003 (20030626/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2003
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2003

>>>  USPAT2 is now available.  USPATFULL contains full text of the     <<<
>>>  original, i.e., the earliest published granted patents or         <<<
>>>  applications.  USPAT2 contains full text of the latest US         <<<
>>>  publications, starting in 2001, for the inventions covered in     <<<
>>>  USPATFULL.  A USPATFULL record contains not only the original     <<<
>>>  published document but also a list of any subsequent              <<<
>>>  publications.  The publication number, patent kind code, and      <<<
>>>  publication date for all the US publications for an invention     <<<
>>>  are displayed in the PI (Patent Information) field of USPATFULL   <<<
>>>  records and may be searched in standard search fields, e.g., /PN, <<<
>>>  /PK, etc.                                                         <<<

>>>  USPATFULL and USPAT2 can be accessed and searched together         <<<
>>>  through the new cluster USPATALL.  Type FILE USPATALL to           <<<
>>>  enter this cluster.                                               <<<
>>>                                                                    <<<
>>>  Use USPATALL when searching terms such as patent assignees,       <<<
```

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>>> classifications, or claims, that may potentially change from <<<
>>> the earliest to the latest publication. <<<

This file contains CAS Registry Numbers for easy and accurate
substance identification.

```
=> s us5169631/pn
L1            1 US5169631/PN

=> s antimicrobial?
L2        26491 ANTIMICROBIAL?

=> s l1 and l2
L3            1 L1 AND L2

=> s bacteria?
L4       131652 BACTERIA?

=> s l3 and l4
L5            1 L3 AND L4

=> s salicylic acid?
          24525 SALICYLIC
         685423 ACID?
L6        19470 SALICYLIC ACID?
                  (SALICYLIC(W)ACID?)

=> s l5 and l6
L7            0 L5 AND L6

=> s amide?
L8       154077 AMIDE?

=> s l8 and l5
L9            0 L8 AND L5

=> s salicylic acid-n-octyl amide? or salicylic acid-n-decyl amide?
          24525 SALICYLIC
         657972 ACID
        1108294 N
          72929 OCTYL
         154077 AMIDE?
             11 SALICYLIC ACID-N-OCTYL AMIDE?
                  (SALICYLIC(W)ACID(W)N(W)OCTYL(W)AMIDE?)
          24525 SALICYLIC
         657972 ACID
        1108294 N
          39695 DECYL
         154077 AMIDE?
             11 SALICYLIC ACID-N-DECYL AMIDE?
                  (SALICYLIC(W)ACID(W)N(W)DECYL(W)AMIDE?)
L10          11 SALICYLIC ACID-N-OCTYL AMIDE? OR SALICYLIC ACID-N-DECYL AMIDE?

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     (FILE 'HOME' ENTERED AT 08:39:19 ON 30 JUN 2003)

     FILE 'USPATFULL' ENTERED AT 08:39:37 ON 30 JUN 2003
L1            1 S US5169631/PN
L2        26491 S ANTIMICROBIAL?
L3            1 S L1 AND L2
L4       131652 S BACTERIA?
```

```
L5             1 S L3 AND L4
L6         19470 S SALICYLIC ACID?
L7             0 S L5 AND L6
L8        154077 S AMIDE?
L9             0 S L8 AND L5
L10           11 S SALICYLIC ACID-N-OCTYL AMIDE? OR SALICYLIC ACID-N-DECYL AMIDE

=> s l10 and l2
L11            1 L10 AND L2

=> s 2,4,4-trichloro-2-hydroxydiphenyl ether?
       3497342 2
       3444435 4
       3444435 4
         14384 TRICHLORO
       3497342 2
          1564 HYDROXYDIPHENYL
        343021 ETHER?
L12          384 2,4,4-TRICHLORO-2-HYDROXYDIPHENYL ETHER?
                 (2(W)4(W)4(W)TRICHLORO(W)2(W)HYDROXYDIPHENYL(W)ETHER?)

=> s l11 and l12
L13            0 L11 AND L12

=> s l2 and l12
L14          198 L2 AND L12

=> s salicylic acid(p)amide?
          24525 SALICYLIC
         657972 ACID
          18829 SALICYLIC ACID
                  (SALICYLIC(W)ACID)
         154077 AMIDE?
L15          705 SALICYLIC ACID(P)AMIDE?

=> s l15 and l14
L16            1 L15 AND L14

=> d ibib abs

L16  ANSWER 1 OF 1  USPATFULL
ACCESSION NUMBER:        2003:86876  USPATFULL
TITLE:                   Hepatitis a viricide
INVENTOR(S):             Rheinbaben, Friedrich Von, Monheim, GERMANY, FEDERAL
                         REPUBLIC OF
                         Biering, Holger, Grevenbroich, GERMANY, FEDERAL
                         REPUBLIC OF
                         Bensemir, Klaus-Peter, Langenfeld, GERMANY, FEDERAL
                         REPUBLIC OF
                         Glaeser, Sabine, Dusseldorf, GERMANY, FEDERAL REPUBLIC
                         OF

                              NUMBER        KIND    DATE
                         ---------------- ------ --------
PATENT INFORMATION:      US 2003060484      A1   20030327
APPLICATION INFO.:       US 2002-168442     A1   20020918  (10)
                         WO 2000-EP12688         20001214

                            NUMBER         DATE
                         ------------------ --------
PRIORITY INFORMATION:    DE 1999-19962353   19991223
DOCUMENT TYPE:           Utility
```

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FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
LINE COUNT: 264
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to agents which combat the hepatitus A virus, containing only minimal amounts of chlorine-containing and/or chlorine cleaving active ingredients, or none of said substances. The inventions also relates to the use of these agents and to a method for their production.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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FILE 'USPATFULL' ENTERED AT 08:39:37 ON 30 JUN 2003
L1 1 S US5169631/PN
L2 26491 S ANTIMICROBIAL?
L3 1 S L1 AND L2
L4 131652 S BACTERIA?
L5 1 S L3 AND L4
L6 19470 S SALICYLIC ACID?
L7 0 S L5 AND L6
L8 154077 S AMIDE?
L9 0 S L8 AND L5
L10 11 S SALICYLIC ACID-N-OCTYL AMIDE? OR SALICYLIC ACID-N-DECYL AMIDE
L11 1 S L10 AND L2
L12 384 S 2,4,4-TRICHLORO-2-HYDROXYDIPHENYL ETHER?
L13 0 S L11 AND L12
L14 198 S L2 AND L12
L15 705 S SALICYLIC ACID(P)AMIDE?
L16 1 S L15 AND L14

=> s l4 and l12
L17 213 L4 AND L12

=> s l17 and l2
L18 154 L17 AND L2

=> s ?hydroxydiphenyl ether?
6139 ?HYDROXYDIPHENYL
343021 ETHER?
L19 1988 ?HYDROXYDIPHENYL ETHER?
(?HYDROXYDIPHENYL(W)ETHER?)

=> s l19 and l10
L20 0 L19 AND L10

=> s l19 and l2
L21 283 L19 AND L2

=> s l21 and l4
L22 221 L21 AND L4

=> s l15 and l22
L23 5 L15 AND L22

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=> d 1-5 ibib abs

L23 ANSWER 1 OF 5 USPATFULL
ACCESSION NUMBER: 2003:109200 USPATFULL
TITLE: **Antimicrobial** compound
INVENTOR(S): Mondello, Frank John, Niskayuna, NY, United States
May, Ralph Joseph, Schenectady, NY, United States
PATENT ASSIGNEE(S): General Electric Company, Niskayuna, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6552214	B1	20030422	
APPLICATION INFO.:	US 2000-564232		20000504	(9)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Shaver, Paul F.
LEGAL REPRESENTATIVE: Caruso, Andrew J., Johnson, Noreen C.
NUMBER OF CLAIMS: 28
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 387
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A compound comprises a blocked halogenated **hydroxydiphenyl ether** of the formula: ##STR1##

where X.sub.1 is a halogen, X.sub.2 is chlorine or bromine, X.sub.3 is hydrogen, chlorine or bromine, X.sub.4 is chlorine, bromine, alkyl having 1 to 3 carbon atoms, --CHO, --CN or --NH.sub.2, X.sub.5 is chlorine, bromine, methyl, trichloromethyl, --CHO, --CN or --NH.sub.2, n is 1 or 2, and R is an ether linkage inhibiting group.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L23 ANSWER 2 OF 5 USPATFULL
ACCESSION NUMBER: 2003:86876 USPATFULL
TITLE: Hepatitis a viricide
INVENTOR(S): Rheinbaben, Friedrich Von, Monheim, GERMANY, FEDERAL REPUBLIC OF
Biering, Holger, Grevenbroich, GERMANY, FEDERAL REPUBLIC OF
Bensemir, Klaus-Peter, Langenfeld, GERMANY, FEDERAL REPUBLIC OF
Glaeser, Sabine, Dusseldorf, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2003060484	A1	20030327	
APPLICATION INFO.:	US 2002-168442	A1	20020918	(10)
	WO 2000-EP12688		20001214	

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1999-19962353	19991223

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MERCHANT & GOULD PC, P.O. BOX 2903, MINNEAPOLIS, MN, 55402-0903
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
LINE COUNT: 264

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to agents which combat the hepatitus A virus, containing only minimal amounts of chlorine-containing and/or chlorine cleaving active ingredients, or none of said substances. The inventions also relates to the use of these agents and to a method for their production.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L23 ANSWER 3 OF 5 USPATFULL

ACCESSION NUMBER:	75:46481 USPATFULL		
TITLE:	Halogenated hydroxy-diphenyl ethers		
INVENTOR(S):	Model, Ernst, Basel, Switzerland Bindler, Jakob, Riehen, Switzerland		
PATENT ASSIGNEE(S):	Ciba-Geigy Corporation, Ardsley, NY, United States (U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3904696		19750909
APPLICATION INFO.:	US 1972-319267		19721229 (5)
DISCLAIMER DATE:	19870413		
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1970-11894, filed on 16 Feb 1970, now Defensive Publication No. which is a continuation-in-part of Ser. No. US 1966-570742, filed on 8 Aug 1966, now Defensive Publication No. which is a continuation-in-part of Ser. No. US 1964-345080, filed on 17 Feb 1964, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Helfin, Bernard		
NUMBER OF CLAIMS:	7		
EXEMPLARY CLAIM:	1		
LINE COUNT:	584		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Halogen-2-hydroxy-diphenyl ethers are useful in bactericidal compositions and method in the protection of organic materials. Illustrative compounds are 2',4,4',5-tetrachloro-2-**hydroxydiphenyl ether**, 4,4',5-trichloro-2-**hydroxydiphenyl ether**, 2',4,4'-trichloro-5-bromo-2-**hydroxydiphenyl ether** and 4,4'-dichloro-5-bromo-2-hydroxyphenyl ether.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L23 ANSWER 4 OF 5 USPATFULL

ACCESSION NUMBER:	75:44791 USPATFULL		
TITLE:	Detergent composition containing halogenated 2-acyloxy-diphenylethers		
INVENTOR(S):	Model, Ernst, Basel, Switzerland Bindler, Jakob, Riehen, Switzerland		
PATENT ASSIGNEE(S):	Ciba-Geigy Corporation, Ardsley, NY, United States (U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3903007		19750902
APPLICATION INFO.:	US 1973-330547		19730208 (5)
RELATED APPLN. INFO.:	Division of Ser. No. US 1970-102053, filed on 28 Dec 1970, now patented, Pat. No. US 3784684 which is a division of Ser. No. US 1967-660926, filed on 16 Aug 1967, now patented, Pat. No. US 3576843 which is a		

continuation-in-part of Ser. No. US 1966-570742, filed on 8 Aug 1966, now patented, Pat. No. US 3506720 which is a continuation-in-part of Ser. No. US 1964-345080, filed on 17 Feb 1964, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Padgett, Benjamin R.
ASSISTANT EXAMINER: Miller, E. A.
NUMBER OF CLAIMS: 6
EXEMPLARY CLAIM: 1
LINE COUNT: 1150
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel diesters of organic dicarboxylic acids and certain halogenated hydroxy-diphenylethers wherein the acyl radical is linked to the benzene nucleus of the diphenylether in 2-position to the ether bridge, which novel esters inhibit microbial growth and are suitable for disinfection and the like purposes, and especially those of the aforesaid diesters wherein at least one diphenyl ether moiety is substituted at least in 4-position and preferably in 4- and 4'-position by halogen, which diesters are particularly useful for the protection of cellulosic materials against **bacteria** and fungi, and for the treatment of infections of the intestinal system and the urinal tract of warm-blooded animals caused by pathogenic microorganisms; compositions containing the aforesaid novel esters in combination with a carrier therefor; and processes of using the aforesaid compositions for the described purposes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L23 ANSWER 5 OF 5 USPATFULL
ACCESSION NUMBER: 74:14836 USPATFULL
TITLE: COMPOSITION OF HALOGENATED HYDROXY-DIPHENYL ETHERS
INVENTOR(S): Model, Ernst, Basel, Switzerland
Bindler, Jakob, Riehen, Switzerland
PATENT ASSIGNEE(S): Ciba-Geigy Corporation, Ardsley, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3800048		19740326
APPLICATION INFO.:	US 1970-74896		19700923 (5)

DISCLAIMER DATE: 19881221
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1967-627603, filed on 3 Apr 1967, now patented, Pat. No. US 3629477 which is a continuation-in-part of Ser. No. US 1966-570742, filed on 8 Aug 1966, now patented, Pat. No. US 3506720 which is a continuation-in-part of Ser. No. US 1964-345080, filed on 17 Feb 1964, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Meyers, Albert T.
ASSISTANT EXAMINER: Waddell, Frederick E.
LEGAL REPRESENTATIVE: Jorda, Karl F., Spellman, Martin J.
NUMBER OF CLAIMS: 7
LINE COUNT: 624
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Halogen-2-hydroxy-diphenyl ethers are useful in bactericidal compositions and method in the protection of organic materials. Illustrative compounds are 2',4,4',5-tetrachloro-2-**hydroxydiphenyl ether**, 4,4',5-trichloro-2-**hydroxydiphenyl ether**, 2',4,4'-trichloro-5-bromo-2-**hydroxydiphenyl ether** and 4,4'-dichloro-5-bromo-2-

hydroxydiphenyl ether.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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     (FILE 'HOME' ENTERED AT 08:39:19 ON 30 JUN 2003)

     FILE 'USPATFULL' ENTERED AT 08:39:37 ON 30 JUN 2003
L1             1 S US5169631/PN
L2         26491 S ANTIMICROBIAL?
L3             1 S L1 AND L2
L4        131652 S BACTERIA?
L5             1 S L3 AND L4
L6         19470 S SALICYLIC ACID?
L7             0 S L5 AND L6
L8        154077 S AMIDE?
L9             0 S L8 AND L5
L10           11 S SALICYLIC ACID-N-OCTYL AMIDE? OR SALICYLIC ACID-N-DECYL AMIDE
L11            1 S L10 AND L2
L12          384 S 2,4,4-TRICHLORO-2-HYDROXYDIPHENYL ETHER?
L13            0 S L11 AND L12
L14          198 S L2 AND L12
L15          705 S SALICYLIC ACID(P)AMIDE?
L16            1 S L15 AND L14
L17          213 S L4 AND L12
L18          154 S L17 AND L2
L19         1988 S ?HYDROXYDIPHENYL ETHER?
L20            0 S L19 AND L10
L21          283 S L19 AND L2
L22          221 S L21 AND L4
L23            5 S L15 AND L22

=> s us6552214/pn
L24            1 US6552214/PN

=> s l24 and l23
L25            1 L24 AND L23

=> d kwic

L25  ANSWER 1 OF 1  USPATFULL
TI     Antimicrobial compound
PI     US 6552214          B1   20030422                                  <--
AB     A compound comprises a blocked halogenated hydroxydiphenyl
       ether of the formula:  ##STR1##
SUMM   The present invention relates to an antimicrobial compound
       having improved resistance to conversion to a toxic compound or a
       dioxin-related compound.
SUMM   Model et al., U.S. Pat. No. 3,800,048 and Model et al., U.S. Pat. No.
       3,904,696 disclose halogenated hydroxydiphenyl ethers
       for controlling microorganisms. Of these, IRGASAN.RTM. DP 300
       2,4,4'-dichloro-2'-hydroxydiphenyl ether produced by
       Ciba-Geigy Corporation, Ardsley, N.Y., is a well-known bacteriostat for
       industrial use. However at a temperature above about 200.degree..  .  .
SUMM   .  .  .  as in plastic fabrications, which may involve high temperature.
       As such, there is a long-felt yet unsolved need for an
       antimicrobial compound that can be used in higher temperature
       fabrications without converting to a dioxin related compound.
SUMM   Accordingly, a halogenated hydroxydiphenyl ether can
       be reacted with a compound that imparts a functional blocking moiety to
```

prevent the conversion of the halogenated **hydroxydiphenyl ether** to dioxin related compounds at the higher temperatures typically used in plastic fabrication. In one embodiment, the compound comprises a blocked halogenated **hydroxydiphenyl ether** of the formula: ##STR3##

SUMM The invention also relates to a process for the preparation of a blocked halogenated **hydroxydiphenyl ether** comprising reacting a halogenated **hydroxydiphenyl ether** of the formula (II): ##STR4##

SUMM In another embodiment, the invention relates to an **antimicrobial** composition comprising a plastic and a blocked halogenated **hydroxydiphenyl ether** of the formula (I) and to a process for the preparation of a plastic comprising incorporating an effective amount of an **antimicrobial** blocked halogenated **hydroxydiphenyl ether** of the formula (I) into the plastic.

SUMM In a preferred embodiment, an **antimicrobial** compound comprises a blocked halogenated **hydroxydiphenyl ether** of the formula: ##STR5##

SUMM The compounds of formula (I) can be produced by reacting a halogenated **hydroxydiphenyl ether** of the formula: ##STR7##

SUMM . . . reaction can be used to provide a blocking functionality. The acylation can convert the 2' hydroxyl group of the halogenated **hydroxydiphenyl ether** into an ester through the action of a carboxylic acid or carboxylic acid derivative. Preferred acylating agents include perfluoroacylimidazoles such. . .

SUMM Another suitable blocking providing reaction is alkylation wherein the hydrogen of the 2' hydroxyl group of the halogenated **hydroxydiphenyl ether** is replaced with an aliphatic or aliphatic-aromatic group. Pentafluorobenzylbromide (PFBBr) is an example of a suitable alkylating compound.

SUMM The diphenyl ethers can be used in combination with other **antimicrobially** active substances. For example, the compound can be used with halogenated **salicylic acid** alkyl **amides** and anilides, with halogenated diphenyl ureas, with halogenated benzoxazoles or benzoxazolones, with polychlorohydroxydiphenyl methanes, with halogendihydroxydiphenyl sulfides, with bactericidal 2-imino-imidazolidines. . . or tetrahydropyrimidines or with biocidal quaternary compounds or with certain dithiocarbamic acid derivatives such as tetramethyl thiuram disulphide. Various additional **antimicrobial** substances alone or in combination can be used with the diphenyl ethers to broaden the range of **antimicrobial** action and/or to provide a synergistic effect.

SUMM The **antimicrobial** compound can be incorporated into a wide variety of plastics such as melt-extrudable thermoplastic polymers, which can be melt-processed to. . .

SUMM The **antimicrobial** composition can be used with other suitable commercial plastic materials such as polyamide resins, acrylonitrile-butadiene-styrene (ABS) thermoplastic resins, polycarbonate resins,. . .

SUMM In this embodiment, the **antimicrobial** composition contains an effective amount of the **antimicrobial** compound. In this context, the term "effective amount" is that amount which exhibits desirable **antimicrobial** activity at a point of use. In various alternative embodiments, the **antimicrobial** composition can contain between about 0.001 and about 5%, preferably between about 0.005 and about 3% and more preferably between about 0.01 and about 1% by weight of the **antimicrobial** compound.

DETD **Antimicrobial** activity of the modified IRGASAN.RTM. bacteriostat was compared to that of the unmodified material in a Kirby-Bauer type assay. Three. . . had been inoculated with

1.times.10.sup.6 cells of either E. coli or Pseudomonas aeruginosa. The ability of the compounds to inhibit **bacterial** growth was determined by measuring the diameter of the zone of inhibition surrounding the filter paper disks after 24 h. . .

DETD . . . in applications differing from the types described herein. While the invention has been illustrated and described as embodied in an **antimicrobial** compound, it is not intended to be limited to the details shown, since various modifications and substitutions can be made without departing in any way from the spirit of the present invention. For example, additional **antimicrobial** substances or microbe abatement methodology can be used in concert with the present compound or process when needed. Although many. . .

CLM What is claimed is:

1. A compound comprising a blocked halogenated **hydroxydiphenyl ether** of the formula: ##STR8## where X.sub.1 is a halogen, X.sub.2 is chlorine or bromine, X.sub.3 is hydrogen, chlorine or bromine,. . .

2. A compound comprising a blocked halogenated **hydroxydiphenyl ether** of the formula: ##STR9## where X.sub.1 is a halogen, X.sub.2 is chlorine or bromine, X.sub.3is hydrogen, chlorine or bromine, X.sub.4. . .

4. A process for the preparation of a blocked halogenated **hydroxydiphenyl ether**, comprising reacting a halogenated **hydroxydiphenyl ether** with a blocking functionality providing compound, said halogenated **hydroxydiphenyl ether** having the formula: ##STR10## where X.sub.1 is a halogen, X.sub.2 is chlorine or bromine, X.sub.3 is hydrogen, chlorine or bromine,. . .

. . . claim 4, wherein said blocking functionality providing compound reacts with the --OH of compound (II) to provide a blocked halogenated **hydroxydiphenyl ether** of the formula: ##STR11## where X.sub.1 is a halogen, X.sub.2 is chlorine or bromine, X.sub.3 is hydrogen, chlorine or bromine,. . .

13. An **antimicrobial** composition, comprising a plastic and a blocked halogenated **hydroxydiphenyl ether** of the formula: ##STR12## where X.sub.1 is a halogen, X.sub.2 is chlorine or bromine, X.sub.3 is hydrogen, chlorine or bromine,. . .

14. The **antimicrobial** composition of claim 13, comprising between about 0.001 and about 5% by weight of the **antimicrobial** compound.

15. The **antimicrobial** composition of claim 13, comprising between 0.005 and about 3% by weight of the **antimicrobial** compound.

16. The **antimicrobial** composition of claim 13, comprising between 0.01 and about 1% by weight of the **antimicrobial** compound.

17. The **antimicrobial** composition of claim 13, wherein the plastic is a melt-extrudable thermoplastic polymer.

18. The **antimicrobial** composition of claim 13, wherein the plastic is a thermosetting polymer or thermoplastic polymer.

19. The **antimicrobial** composition of claim 13, wherein the plastic is a polyolefin.

20. The **antimicrobial** composition of claim 13, wherein the plastic is polyethylene, polypropylene, poly(1-butene), poly(2-butene), poly(1-pentene), poly(2-pentene), poly(3-methyl-1-pentene), poly(4-methyl-1-1pentene), 1,2-poly-1,3-butadiene, 1,4-poly-1,3-

butadiene, polyisoprene, polychloroprene,. . .
21. The **antimicrobial** composition of claim 13, wherein the plastic is a blend of polyolefins or copolymers.

22. The **antimicrobial** composition of claim 13, wherein the plastic is a polycarbonate.

23. The **antimicrobial** composition of claim 13 in the form of a pellet or powder.

24. The **antimicrobial** composition of claim 13, wherein R is trimethylsilyl, butyldimethylsilyl, or tert-butyldimethylsilyl.

25. The **antimicrobial** composition of claim 13, wherein R is an acyl group that inhibits the formation of an ether linkage with X.sub.3. . . .
26. The **antimicrobial** composition of claim 13, wherein R is pentafluorobenzyl.

27. The **antimicrobial** composition of claim 13, wherein said blocked halogenated **hydroxydiphenyl ether** 2,4,4'-tricloro-2'-trimethylsilyloxy diphenyl ether.

28. A process for the preparation of an **antimicrobial** plastic, comprising incorporating into said plastic, an effective amount of a blocked halogenated **hydroxydiphenyl ether** of the formula: ##STR13## where X.sub.1 is a halogen, X.sub.2 is chlorine or bromine, X.sub.3 is hydrogen, chlorine or bromine,. . .